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PUBLICATIONS OF THE BUREAU OF ENTOMOLOGY, U. S. DEPARTMENT OF AGRICULTURE,
AVAILABLE FOR FREE DISTRIBUTION

FARMERS' BULLETINS

- 447F. Bees.
- 450F. Some facts about malaria.
- 627F. The house centipede.
- 636F. The chalcis fly in alfalfa seed.
- 650F. The San Jose scale and its control.
- 658F. Cockroaches.
- 662F. The apple-tree tent caterpillar.
- 668F. The squash-vine borer.
- 675F. The roundheaded apple-tree borer.
- 701F. The bagworm, an injurious shade-tree insect.
- 705F. The catalpa sphinx.
- 708F. The leopard moth: A dangerous imported enemy of shade trees.
- 721F. The rose-chafer.
- 722F. The leaf blister mite of pear and apple.
- 723F. The oyster-shell scale and the scurfy scale.
- 725F. Wireworms destructive to cereal and forage crops.
- 731F. The true army worm and its control.
- 734F. Flytraps and their operation.
- 739F. Cutworms and their control in corn and other cereal crops.
- 740F. House ants: Kinds and methods of control.
- 747F. Grasshoppers and their control with relation to cereal and forage crops.
- 752F. The fall army worm or "grass worm" and its control.
- 754F. The bedbug.
- 762F. The false chinch bug and measures for controlling it.
- 763F. Orchard barkbeetles and pinhole borers and how to control them.
- 789F. Mushroom pests and how to control them.
- 799F. Carbon disulphid as an insecticide.
- 801F. Mites and lice on poultry.
- 831F. The red spider on cotton and how to control it.
- 835F. How to detect outbreaks of insects and save the grain crops.
- 846F. The tobacco beetle and how to prevent damage by it.
- 857F. Screw worms and other maggots affecting animals.
- 860F. Cranberry insect problems and suggestions for solving them.
- 875F. The rough-headed corn stalk-beetle in the Southern States and its control.
- 880F. Fumigation of ornamental greenhouse plants with hydrocyanic-acid gas.
- 890F. How insects affect the cotton plant and means of combating them.
- 891F. The corn root-aphis and methods of controlling it.
- 897F. Fleas and their control.
- 902F. The silverfish: An injurious household insect.
- 908F. Information for fruit growers about insecticides, spraying apparatus,
and important insect pests.

- 933F. Spraying for the control of insects and mites attacking citrus trees in Florida.
- 940F. Common white grubs.
- 944F. Controlling the garden webworm in alfalfa fields.
- 950F. The southern corn rootworm and farm practices to control it.
- 959F. The spotted garden slug.
- 961F. Transferring bees to modern hives.
- 971F. The control of the clover-flower midge.
- 975F. The control of European foulbrood.
- 982F. Control of the green clover worm in alfalfa fields.
- 1003F. How to control billbugs destructive to cereal and forage crops.
- 1006F. The jointworm and its control.
- 1007F. Control of the onion thrips.
- 1012F. Preparation of bees for outdoor wintering.
- 1014F. Wintering bees in cellars.
- 1025F. The larger corn stalk-borer.
- 1029F. Conserving corn from weevils in the Gulf Coast States.
- 1039F. Commercial comb-honey production.
- 1061F. The harlequin cabbage bug and its control.
- 1065F. The flatheaded apple-tree borer.
- 1070F. The fowl tick and how premises may be freed from it.
- 1076F. The California oakworm.
- 1083F. The Hessian fly and how to prevent losses from it.
- 1084F. Control of American foulbrood.
- 1094F. The alfalfa caterpillar.
- 1097F. The stable fly: How to prevent its annoyance and its losses to live stock.
- 1101F. The Argentine ant as a household pest.
- 1104F. Book-lice or psocids: Annoying household pests.
- 1128F. Control of aphids injurious to orchard fruits, currant, gooseberry, and grape.
- 1154F. The aspen borer and how to control it.
- 1156F. Angoumois grain moth.
- 1169F. Insects injurious to deciduous shade trees and their control.
- 1197F. Protection of mesquite cordwood and posts from borers.
- 1198F. Swarm control.
- 1206F. The corn earworm as an enemy of vetch.
- 1215F. Beekeeping in the clover region.
- 1216F. Beekeeping in the buckwheat region.
- 1217F. The green-bug or spring grain-aphis: How to prevent its periodical outbreaks.
- 1220F. Insect and fungus enemies of the grape.
- 1222F. Beekeeping in the tulip-tree region.
- 1246F. The peach borer.
- 1252F. Sawflies injurious to rose foliage.
- 1257F. Insects injurious to the mango in Florida and how to combat them.
- 1258F. Webworms injurious to cereal and forage crops and their control.

- 1259F. A sawfly injurious to young pines.
1260F. Stored grain pests.
1261F. The avocado: Its insect enemies and how to combat them.
1270F. The more important apple insects.
1275F. Weevils in beans and peas.
1285F. Lime-sulphur concentrate: Preparation, uses, and designs for plants.
1286F. The red-necked raspberry cane-borer.
1306F. Insect enemies of chrysanthemums.
1309F. Control of the common mealybug on citrus in California.
1310F. The corn earworm: Its ravages on field corn and suggestions for control.
1321F. Fumigation of citrus trees for control of insect pests.
1323F. The wheat strawworm and its control.
1326F. Control of the codling moth in the Pacific Northwest.
1329F. The boll weevil problem.
1344F. The strawberry rootworm as an enemy of the greenhouse rose.
1346F. Carpet beetles and their control.
1352F. The tobacco flea-beetle in the southern cigar-wrapper district.
1353F. Clothes moths and their control.
1354F. The yellow-fever mosquito.
1356F. Tobacco hornworm insecticide: Recommendations for use of powdered arsenate of lead in the dark-tobacco district.
1362F. Insects injurious to ornamental greenhouse plants and their control.
1364F. Important pecan insects and their control.
1371F. Diseases and insects of garden vegetables.
1407F. The Mexican bean beetle in the East.
1408F. The house fly and how to suppress it.
1425F. The tobacco flea-beetle in the dark fire-cured tobacco district of Kentucky and Tennessee.
1461F. The common cabbage worm and its control.
1462F. The potato leafhopper and how to control it.
1472F. Preventing damage by termites or white ants.
1477F. Preventing damage by Lyctus powder-post beetles.
1483F. Control of insect pests in stored grain.
1484F. The clover leaf weevil and its control.
1489F. The green June beetle larvae in tobacco plant beds.
1494F. Tobacco cutworms and their control.
1495F. Insect enemies of the flower garden.
1498F. The chinch bug and how to fight it.
1499F. The melon aphid and its control.
1503F. The horse bots and their control.
1528F. The control of the alfalfa weevil.
1531F. The tobacco budworm and its control in the Georgia and Florida tobacco-growing region.
1543F. Insects injurious to the rice crop.
1548F. The European corn borer: Its present status and methods of control.
1557F. Insects attacking the peach in the South and how to control them.
(In press.)
1561F. The Porto Rican mole cricket. (In press.)

LEAFLETS

- 2L. Cutworms in the garden.
- 12L. The striped blister beetle on soybeans.

ENTOMOLOGY LEAFLET

E-127. Chinch bug.

POSTERS

(Those marked with an asterisk are obtainable from the Bureau of Entomology only.)

- *E-144. Potato beetles.
- E-149. Destroy grasshoppers with poison-bran bait.
- *E-152. Garden cutworms.
- E-155. Spray potato fields.
- *E-157. Garden plant-lice.
- E-177. The Hessian fly.
- E-178. Wheat jointworm.
- E-179. The alfalfa seed Chalcis-fly.
- *Help fight the European corn borer.

YEARBOOK SEPARATES

(Those marked with an asterisk are obtainable from the Bureau of Entomology only.)

- *653Y. Edible snails.
- *706Y. Suppression of the gipsy and brown-tail moths and its value to States not infested.
- *786Y. How weevils get into beans.

DEPARTMENT CIRCULARS

(The publications in this series are semipopular in character. Those marked by an asterisk are obtainable from the Bureau of Entomology only.)

- 172C. The range crane-fly in California.
- *224C. Nicotine dust for control of the striped cucumber beetle.
- 263C. Preliminary report on the control of the San Jose scale with lubricating-oil emulsion.
- 274C. Dusting for the cotton boll weevil.
- *282C. The Australian tomato weevil introduced in the South. A preliminary account.
- *284C. The sterilization of American foulbrood combs.
- 287C. The occurrence of diseases of adult bees, II.
- *303C. The hot-water treatment of sugar cane for insect pests: A precaution.
- *334C. The bee-louse, *Braula coeca*, in the United States.
- 361C. The cotton hopper or so-called cotton flea.
- 363C. The Japanese beetle.
- 367C. Airplane dusting in the control of malaria mosquitoes.
- 380C. Calcium cyanide as a fumigant for ornamental greenhouse plants.
- 395C. The oriental peach moth.

CIRCULARS

(This series supersedes the Department Circular series.)

- 7. An apparatus for the rapid vaporization of carbon disulphide.
- 14. Status of imported parasites of the European corn borer.
- 18. Experimental dissemination of the tabanid egg parasite *Phanurus omersoni* Girault and biological notes on the species.
- 24. United States grades, color standards, and packing requirements for honey.

MISCELLANEOUS CIRCULARS

- 46M. A bibliography of the European corn borer (*Pyrausta nubilalis* Hbn.) (In press)
- 70M. Timely information about the European corn borer.
- 102M. Pertinent information regarding the 1927 spring clean-up of areas quarantined on account of the European corn borer.
- 104M. Spread and infestation by the European corn borer during 1926.

DEPARTMENT BULLETINS

(Most of the publications in this series are professional papers intended for the use of entomologists or other technical workers. Those marked by an asterisk are obtainable from the Bureau of Entomology only.)

- *59D. The tobacco splitworm.
- *100D. Walnut aphides in California.
- *111D. The Sequoia pitch moth: A menace to pine in western Montana.
- *113D. The lesser bud-moth.
- *124D. The alfalfa caterpillar.
- *131D. Repellents for protecting animals from the attacks of flies.
- *134D. Citrus fruit insects in Mediterranean countries.

- *170D. The European pine-shoot moth.
- *173D. The life history and habits of the pear thrips in California.
- *184D. The huisache girdler.
- *245D. Further experiments in the destruction of fly larvae in horse manure.
- *264D. The violet rove beetle.
- *295D. The Zimmerman pine moth.
- *382D. Cotton-boll weevil control in the Mississippi delta, with special reference to square picking and weevil picking.
- *443D. The New Mexico range caterpillar and its control.
- *491D. The melon fly in Hawaii.
- *550D. Control of the grape-berry moth in the Erie-Chautauqua grape belt.
- *564D. Collection of weevils and infested squares as a means of control of the cotton-boll weevil in the Mississippi delta.
- *796D. Use of toxic gases as a possible means of control of the peach-tree borer.
- *808D. Studies on the life-history and habits of the jointworm flies of the genus Harmolita, with recommendations for control.
- 809D. American fowlbrood.
- *838D. Cypress bark scale.
- 872D. Insect control in flour mills.
- *962D. Studies in the biology of the Mexican cotton boll weevil in short-staple upland, long-staple upland, and Sea Island cottons.
- 965D. Control of the Argentine ant in California citrus orchards.
- *967D. Results of work on blister beetles in Kansas.
- 986D. Studies on the biology and control of chiggers.
- 1016D. Bionomics of the chinch bug.
- *1028D. *Apanteles melanoscelus*, an imported parasite of the gipsy moth.
- *1032D. The blackhead fireworm of cranberry on the Pacific Coast.
- *1040D. Control of the citrophilous mealybug.
- 1076D. Biology of the lotus borer (*Pyrausta penitalis* Grote).
- 1107D. The lead-cable borer or "short-circuit beetle" in California.
- 1115D. Chemical changes in calcium arsenate during storage.
- 1147D. Chemical, physical, and insecticidal properties of arsenicals.
- 1149D. Absorption and retention of hydrocyanic acid by fumigated food products.
- 1160D. Studies on contact insecticides.
- 1217D. Mixing emulsified mineral lubricating oils with deep-well waters and lime-sulphur solutions.
- *1218D. Horse-flies: Biologies and relation to western agriculture.
- *1222D. Growth and feeding of honeybee larvae.
- *1223D. The European elm scale in the West.
- 1231D. Tests of methods of protecting woods against termites or white ants.
- *1235D. Life history of the codling moth in the Yakima Valley of Washington.
- *1238D. The canker worms.
- 1243D. Studies of the Mexican bean beetle in the Southeast.
- *1267D. The rough-headed corn stalk-beetle.
- *1303D. The pecan nut case-bearer.
- 1307D. Absorption and retention of hydrocyanic acid by fumigated food products.
- Part II.
- *1313D. Fumigation against grain weevils with various volatile organic compounds.
- 1324D. The oviposition response of insects.
- *1328D. The flight activities of the honeybee.
- *1332D. Emulsions of wormseed oil and of carbon disulfide for destroying larvae of the Japanese beetle in the roots of perennial plants.
- *1336D. Biological studies of the green clover worm.
- 1339D. The effect of weather upon the change in weight of a colony of bees during the honey flow.

- *1349D. The brood-rearing cycle of the honeybee.
- 1357D. The strawberry rootworm: A new pest on greenhouse roses.
- 1363D. Host relations of *Compsilura concinnata* Meigen, an important tachinid parasite of the gipsy moth and the brown-tail moth.
- *1364D. Effects on honeybees of spraying fruit trees with arsenicals.
- 1369D. The cattle grubs or ox warbles, their biologies and suggestions for control.
- 1371D. Effectiveness against the San Jose Scale of the dry substitutes for liquid lime-sulphur.
- 1374D. Studies of the pink bollworm in Mexico.
- *1393D. The granary weevil.
- 1397D. The pink bollworm, with special reference to steps taken by the Department of Agriculture to prevent its establishment in the United States.
- 1426D. The clover root-borer.
- 1428D. The cadelle.
- 1429D. The parasites of *Popillia japonica* in Japan and Korea, and their introduction in the United States.
- *1439D. Fish oil, an efficient adhesive in arsenate of lead sprays.
- 1453D. The cheese skipper as a pest in cured meats.
- 1469D. The satin moth, a recently introduced injurious pest.
- 1472D. Chemotropic tests with the screw-worm fly.
- 1476D. A progress report on the investigations of the European corn borer.
- 1482D. Experiments on the control of the plum curculio, brown-rot, and scab, attacking the peach in Georgia.
- *1487D. A study in hyperparasitism, with particular reference to the parasites of *Apanteles melanoscelus* (Ratz.).
- 1490D. Defects in timber caused by insects.

TECHNICAL BULLETINS

(This series supersedes the Department Bulletin series.)

- 3T. The relation of highway slash to infestations by the western pine beetle in standing timber.
- 4T. *Lygus elisus*: A pest of the cotton regions in Arizona and California.
- 15T. The citrus insects of Japan.
- 19T. Parasites of the pink bollworm in Hawaii.
- 20T. A study of *Phylloxera* infestation in California as related to types of soils.
- 25T. Control experiments against the European red mite and other fruit-tree mites.
- 31T. The larger sod webworm.
- 34T. The fall army worm.
- 41T. The sugar-cane moth borer in the United States.
- 42T. Life history of the codling moth in Delaware.
- 48T. The western cedar pole borer.
- 52T. A classification of the higher groups and genera of the coccid family *Margarodidae*. (In press.)
- 53T. Scouting, quarantine, and control for the European corn borer, 1907 - 1926.
- 58T. Paradichlorobenzene experiments in the South for peach-borer control.
- 59T. The European corn borer and its controlling factors in Europe. (In press.)
- 60T. Ineffectiveness of internal medication of poultry for the control of external parasites.
- 66T. The apple maggot. (In press.)
- 77T. The host plants of the European corn borer in New England. (In press.)

REPORTS, OFFICE OF THE SECRETARY

(This series has been discontinued. The publications listed below, which are of a technical character, are obtainable from the Bureau of Entomology only.)

- *99. Classification of the Cryphalinae, with descriptions of new genera and species.
- *101. The woolly apple aphid.
- *102. Descriptions of some weevils reared from cotton in Peru.
- *107. Larvae of the Prioninae.

CIRCULARS, OFFICE OF THE SECRETARY

(This series has been discontinued. The two numbers listed below are obtainable from the Bureau of Entomology only.)

- *51. The Hessian fly situation in 1915.
- *55. The spring grain-aphid or "greenbug" in the Southwest and possibilities of an outbreak in 1916.

The three series listed below were discontinued in 1914. Most of them (those marked by an asterisk) are obtainable from the Bureau of Entomology only.

ENTOMOLOGY CIRCULARS

- *50. The white ant. (Superseded by Farmers' Bulletin 1472.)
- *101. The apple maggot or "railroad worm."
- *123. Methods of controlling tobacco insects.
- *131. How to control the pear thrips.
- *148. Two destructive Texas ants.
- *153. The cotton worm or cotton caterpillar.
- *158. The clover mite.
- *168. Spraying for white flies in Florida. (Superseded by Farmers' Bulletin 933.)
- *173. Arsenate of lead as an insecticide against the tobacco hornworms; (Superseded by Farmers' Bulletin 1356.)
- *Unnumbered. The pink bollworm. 1914.

ENTOMOLOGY BULLETINS

- 71. The periodical Cicada.
- *85. Part II. The slender seed-corn ground-beetle.
- *85. Part III. The clover-root curculio.
- *95. Part II. The maize billbug.

ENTOMOLOGY TECHNICAL SERIES

- *19. Contents and index.
- *23. Part I. Some new California and Georgia Thysanoptera.
- *24. The life history of the alder blight aphid.
- *25. Part II. The yellow clover aphid.
- *27. Part II. Classification of the Aleyrodidae.
- *27. Contents and index.